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AUTHOR Beck, Ann E.
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ABSTRACT

An analysis of the accident experience of the Hawaii Bound School for 1980 is given in this report. Student and instructor accident reports list all injuries reported during the year, the number of times each type of injury was reported and the age range of students injured. The report makes recommendations concerning implementation of 1979 recommendations, a safety inspection, data collection, revision of the medical form used, and examination of incoming students to see that they are healthy. The Near Miss Report for June-September describes nine incidents which might have resulted in injury, the contributing factors present in each case, and possible preventative measures. The analysis includes the following comparisons with 1979: (1) the rate of accidents increased due, in part, to a more thorough reporting of all accidents; (2) the rate of lacerations increased; (3) the rate of instructor accidents decreased; and (4) the number and rate of accidents requiring evacuation, medical attention, and/or removal from a course decreased significantly. Tabulations of number of student and instructor days in the school and accident rate per student day by type and year are included. (CM)

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SAFETY AND ACCIDENT REPORT 1980

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RC 012783

submitted by:

Ann E. Beck
Program Director
Hawaii Bound School

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OVERVIEW

As a part of our Safety Program, the following is an analysis of our accident experience during 1980.

DATA COLLECTION

Data is collected by field instructors as accidents and injuries occur and is relayed to the Program Director on field accident report forms. (See Attached) Each accident is counted once although several cards may have been submitted to describe the injury, treatment and care (i.e. a cut that becomes infected over a week's period). All injuries are reported, from a minor scrape to a broken bone.

DEFINITIONS

On the attached sheets, the # symbol refers to the number of accidents. the term "rate" refers to the number of accidents per student day. The rate is computed as follows:

$$\frac{\text{number of accidents}}{\text{number of student days}} = \text{accident rate per student day}$$

OBSERVATIONS

1. The rate of accidents was highest in August and lowest in July.

2. Juniors had 6.3% fewer student days than the older students, yet they had 60.7% of the accidents.

3. The highest accident rate was in the area of lacerations and punctures.

4. The area of illnesses had the highest rate. Illnesses are not counted as accidents.

5. The accident rate for instructors was highest in July and lowest in August.

6. The rate of accidents for students was higher than that of instructors.

7. Compared to the 1979 Safety and Accident Report:

    a) The rate of accidents increased. This is due, in part, to a more thorough reporting of all accidents, no matter how minor.
    b) The rate of lacerations increased.
    c) The rate of instructor accidents decreased.
    d) The number and rate of accidents requiring evacuation, medical attention and/or removal from a course decreased significantly.

cont'd - Safety & Accident Report 1980

8. Hawaii Bound's safety program is very effective and the 1980 summer season was very successful in this regard.

RECOMMENDATIONS FOR 1981

1. Continue to implement all of the recommendations made in 1979.
2. Bring in a safety specialist and/or a peer review to inspect the safety program during the summer season.
3. Continue the method for data collection that has been used for the past two years.
4. Rewrite the medical form indicating to doctors the kind of program that they are sending children to.
5. Assure that all students are healthy upon arrival so that they are not bringing contagious illnesses onto the course.

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STUDENT DAYS 1980

STUDENT DAYS		
21 Day Standard Course	67 X 21 =	1407
21 Day Junior Course	66 X 21 =	1386
8 Day Adult Course	7 X 8 =	56
Total Student Days		2849

STUDENT DAYS PER MONTH	JUNE	JULY	AUGUST
21 Day Standard Course	420	441	546
21 Day Junior Course	609	210	567
8 Day Adult Course		56	
Total Monthly Student Days	1029	707	1113

INSTRUCTOR DAYS PER MONTH	JUNE	JULY	AUGUST
21 Day Standard Course	126	126	168
21 Day Junior Course	147	42	147
8 Day Adult Course		8	
Total Monthly Instructor Days	273	176	315
TOTAL INSTRUCTOR DAYS	764		

12/11/80

STUDENT ACCIDENT REPORT

Type of Injury 1980	June #	June Rate	July #	July Rate	August #	August Rate	September #	September Rate	Total #	Total Rate	Average #per month
Hypothermia, Hyperthermia, Severe Exhaustion, Allergic Reactions, Altitude Sickness	6	.006	0		6	.006			12	.004	4
Fractures & Dislocations	0		0		0				0		
Lacerations & Punctures	6	.006	5	.007	15	.014			26	.009	8.6
Sprains & Strains	3	.003	0		5	.005			8	.003	2.6
Contusions & Abrasions	8	.008	6	.008	3	.003			17	.006	5.6
Burns & Stings	4	.004	2	.003	9	.008			15	.005	5.0
Water Related Cuts	4	.004	3	.004	8	.008			15	.005	5.0
TOTAL	31	.033	16	.023	46	.044			93	.034	31
Student Days	947		707		1037				*2691		897

The following is a report of illness and injury reported that are not included in the categories listed above;

Blisters	7	.007	1	.001	11	.011			19	.007	6.3
Illness	10	.010	6	.008	16	.015			32	.012	10.6

The above report includes every report made for all degrees of injury. There is no separation of severity, such as accidents requiring medical attention, evacuation, or removal from a course.

Below is a breakdown of accidents reported involving people 12 - 15 years of age and 16 years and older.

12 - 15 year	31	.033	10	.014	41	.040			82	.030	27.3
16 years and older	17	.018	13	.018	23	.022			53	.020	17.6

See attached Near Miss Report for information regarding potential accidents.

* The numbers indicating student days take into account the students who left the course early. Only the actual days that they were on the course are included in this report. Note the difference in student days between this page and the statistics on page 3.

12/11/80

INSTRUCTOR ACCIDENT REPORT 1980

Type of Injury	June #	June Rate	July #	July Rate	August #	August Rate	September #	September Rate	Total #	Total Rate	Average # per month
Hypothermia, Hyperthermia, Severe Exhaustion, Allergic Reactions, Altitude Sickness	0		0		1	.003			1	.001	.3
Fractures & Dislocations	0		0		1	.003			1	.001	.3
Lacerations & Punctures	2	.007	3	.017	0				5	.006	1.6
Sprains & Strains	3	.011	3	.017	3	.009			9	.012	3.0
Contusions & Abrasions	0		2	.011	1	.003			3	.004	1.0
Burns & Stings	1	.003	0		1	.003			2	.003	.6
Water Related Cuts	1	.003	0		0				1	.001	.3
TOTAL	7	.025	8	.045	7	.022			22	.029	7.3
Instructor Days	273		176		315				764		255

The above report includes every report made for all degrees of injury. There is no separation of severity, such as accidents requiring medical attention, evacuation, or removal from a course.

Below is a report of illnesses and injury reported that are not included in the categories listed above.

Blisters	0		0		0				0		
Illness	3	.011	3	.017	3	.009			9	.012	3

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ACCIDENT REPORT - 1980

OVERVIEW

The following is an analysis of our accident experience during 1980. The accidents reported here are only those accidents which required evacuation, medical attention and/or removal from a course. A supplemental accident report accounts for all injuries reported including such things as minor cuts, rashes, and mild altitude sickness.

DATA COLLECTION

Data is collected by field instructors as accidents and injuries occur and is relayed to the Program Director on field accident report forms. (See Below) Each accident is counted once although several cards may have been submitted to describe the injurym treatment and care (i.e. a cut that becomes infected over a weeks period).

DEFINITIONS

On the attached sheets, the # symbol refers to the number of accidents. The term "rate" is the number of accidents per student day annualized. The rate is computed as follows:

$$\frac{\text{number of accidents}}{\text{number of student days}} = \text{accident rate per student day}$$

ACCIDENT RATE PER STUDENT DAY BY TYPE AND YEAR

TYPE OF INJURY	1978 #	1978 Rate	1979 #	1979 Rate	1980 #	1980 Rate	1981 #	1981 Rate	1982 #	1982 Rate	Average Rate (5 years)
Hypothermia, Hyperthermia Severe Exhaustion, Allergic Reactions, Altitude Sickness	N/A	N/A	1	.0002	1	.0004					
Fractures & Dislocations	N/A	N/A	0	0	0	0					
Lacerations & Punctures	N/A	N/A	1	.0002	0	0					
Sprains & Strains	N/A	N/A	2	.0004	0	0					
Contusions & Abrasions	N/A	N/A	0	0	0	0					
Burns & Stings	N/A	N/A	2	.0004	0	0					
Water Related Cuts	N/A	N/A	0	0	0	0					
Fatalities	0	0	0	0	0	0					
Total	N/A	N/A	6	.001	1	.0004					
Student Days	3,358		4,319		2,691						

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NEAR MISS REPORT

JUNE - SEPTEMBER, 1980

1. June 12, 1980 - A logistics worker threw a folding saw to a student. He missed his target and hit another student with the folded saw on the side of her head. There was no injury other than the immediate blow.

   Contributing Factors:

   Preventative Measures: Don't throw saws and other cutting or potentially dangerous equipment. Announce what is being done and make sure that bystanders are out of the way.

2. June 28, 1980 - A group of students coming down the Ainapo Trail ran out of water and did not have an additional supply source. They were carrying 6 quarts of water per person for a three day trek down the mountain.

   Contributing Factors:

   Preventative Measures: Carry 8 quarts of water per person. We have already put a water catch in one lava tube. Continue to look for water sources.

3. June 30, 1980 - A large rock fall at the rappel site nearly hit some unknown swimmers.

   Contributing Factors: A student at the top of the rappel site came down to rappel on the wrong side of the rope and stepped on a rock which seemed secure to the eye but which gave way and fell into the pond below.

   Preventative Measures: Make sure that the instructor at the bottom of the rappel site always warns any local people, as well as our students about the danger of falling rock and makes sure that they stay away from the fall area. Inspect the rappel area each time it is used for lose rock.

4. July 27, 1980 - On the last resupply of the course, the truck was coming down from the Mauna Loa Observatory with the 'ohana in the back of the truck. A girl was sitting in the rear of the truck on the right hand side. She leaned over to pick something off of the floor as the truck rounded a courner. The girl nearly fell out of the rear of the truck. The webbing gate was in place but was insufficient to stop her. A student grabbed her and kept her from falling.

cont'd - Near Miss Report

Contributing Factors:

Preventative Measures: The webbing has been replaced with a metal bar which is strong and does not move or give way.

5. August 3, 1980 - An Adult female got lost which coming back from a one day solo. The instructor and the rest of the 'ohana waited for about 15 minutes after everyone got back before the instructor went to her solo site to find her. The instructor found that she was not there. A first and second degree search were quickly carried out. Then they returned to the central campsite and got organized for a third degree search. The victim was found after a 1½ hour grid search.

   Contributing Factors: The victim was confused about her directions back to the central campsite. She knew very well what to do if she got lost and followed those directions perfectly.

   Preventative Measures: Continue to give whistles to students on solo. Continue to teach search and rescue before solo so that students are prepared and teach what to do if they should become lost. Show students on the map where they are and what the lay out of the solo sites will be so that they have a better understanding of their bearings.

6. August 16, 1980 - A student was informed that he was to be removed from a course. He then became violent, threatening the 'ohana with sticks and rocks and frightening the group badly. An instructor and one student went to call the basecamp for help.

   Contributing Factors: The student was 14 years old and put in a group of people 17 years of age and older. He spent the entire time that he was there trying to act big. When we talked to him later it seemed that he was afraid of the people in his group, of his own anger, and of the rain forest which he was about to enter.

   Preventative Measures: Make sure that juniors go in junior groups and standards go in standard groups.

7. August 22, 1980 - A group of students were lost on expedition down the Ainapo Trail in the forest section above Koanui camp. When they reached the wall, they were confused by the red and blue marking ribbons on the wall and went the wrong way.

   Contributing Factors: That section of the trail is not marked. The ahu's run out about 500 yards above the wall. The instructors were not confident about the directions accompanying the red and blue tags and so the students picked up on their uncertainty and were also confused.

   Preventative Measures: Tag the section of the trail and build ahu's so the way is clear. Make sure that the instructors know what the different colored tags indicate on the wall.

8. August 24, 1980 - A stove ignited and set the fuel bottle, which was

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about two feet away, on fire. "Ohana was at the Pu'u Ula Ula cabin on Mauna Loa.

Contributing Factors: There was an improper seal on the fuel bottle and it was too close to the stove.

Preventative Measures: Make sure that the fuel bottle is no where near the stoves when they are lit or being lit. Check the rubber washer on the caps and make sure that the staoves are cleaned every two days on the trail.

9. August 24, 1980 - One student, in a group of students on expedition on Mauna Loa, got sick with altitude sickness and did not reach their destination which was to meet up with the rest of their 'ohana that night. Another 'ohana was camping at Pu'u Ula Ula and was informed that afternoon by a hiker coming down from the summit that he had seen 4 students camped 1½ miles above Pu'u Ula Ula, one of them was sick and they were behind the instructors. One instructor and 3 students went up, found the students and sent them back to Pu'u Ula Ula. Two of the students accompanied them while the instructor and one student stayed for a while calling for and searching for the instructors for that group and for the rest of the 'ohana. It was late and foggy so they could not stay. They left a note saying that they had taken the students to Pu'u Ula Ula and then returned down to the cabin, returning after dark. The next morning, one of the instructors and one student accompanied the late students up the mountain and met their own 'ohana by 1:00 p.m.

When the other half of the 'ohana had realized that the group was not going to make it to their destination, the instructors had the students stay in one place while they went and looked and called for the missing students. They heard the calls of the instructor and student from the other group but were unable to find them or to tell which way the calls were coming from. After a long search, they returned to the group and decided to continue the search in the morning.

Contributing Factors: One student had shown signs of altitude sickness before the expedition. The 'ohana was composed of 12 - 15 year olds and did not have enough cohesiveness in their group to know how to take care of themselves in a group by the time of the expedition. The group did not know how to solve its own problems. The instructor did not teach them how to solve problems but set them apart on their own and expected them to figure it out for themselves.

Preventative Measures: Don't allow juniors to go on expedition on Mauna Loa. Don't send children with altitude sickness on expedition. Make sure tha instructors are teaching the students how to listen and express themselves and give them plenty of opportunities to do that.